

# CHICAGO

## Electric<sup>®</sup> Power Tools

# ROTARY TOOL KIT

# WITH 60 ACCESSORIES

Model 41695

## ASSEMBLY AND OPERATING INSTRUCTIONS



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For technical questions and replacement parts, please call 1-800-444-3353.

REV 05/05

## Specifications

Tool Speed	16,250 RPM's (no load)
Power Supply	120 VAC, 60 Hz UL® Power Adapter
Collet Sizes	1/8", 3/32", 3/64"
Spindle Thread	M8 x .75

Accessories listed on page 6 on the parts list.

## Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

## Safety Warnings and Precautions

**WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.**

**Read all instructions before using this tool!**

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye and ear protection.** Always wear ANSI approved impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tool and accessories sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically; and if damaged, have them repaired by an authorized technician. The handle must be kept clean, dry, and free from oil and grease at all times.

10. **Disconnect power.** Unplug adapter when not in use.
11. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before plugging it in.
12. **Avoid unintentional starting.** Be sure the switch is in the Off position when not in use and before plugging in. Do not carry any tool with your finger on the switch, whether it is plugged in or not.
13. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
14. **Take caution as some woods contain preservatives such as copper chromium arsenate (CCA) which can be toxic.** When cutting these materials extra care should be taken to avoid inhalation and minimize skin contact.
15. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.
16. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
17. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
18. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
19. **Use proper size and type extension cord.** If an extension cord is required, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool. This tool requires use of an extension cord of **0 to 10 amps** capability (up to 50 feet), with wire size rated at **18 AWG**. Longer extension cords require larger size wire. If you are using the tool outdoors, use an extension cord rated for outdoor use (signified by "WA" on the jacket).
20. **Maintenance.** For your safety, maintenance should be performed regularly by a qualified technician.

**Note: Performance of this tool (if powered by line voltage) may vary depending on variations in local line voltage. Extension cord usage may also affect tool performance.**

**Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.**

**WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:**

- **Lead from lead-based paints**
- **Crystalline silica from bricks and cement or other masonry products**
- **Arsenic and chromium from chemically treated lumber**  
**(California Health & Safety Code 25249.5, et seq.)**

**Warning:** The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm).  
(California Health & Safety Code § 25249.5, et seq.)

**Warning:** Exposure to aluminum oxide (a dust generated from material removing processes) can result in eye, skin and breathing irritation. Always use a NIOSH (National Institute for Occupational Safety and Health) approved respirator and safety goggles. Avoid skin exposure. Proper ventilation in the work area is required.

### **Additional Rotary Tool Safety Warnings.**

1. Make sure accessories are rated for the speed recommended for this tool.
2. Securely clamp workpiece as the Rotary Tool spins at very high RPM rates. Never hold a workpiece in your hands.
3. Always disconnect the DC power source before changing accessories.
4. Do not grind or sand near flammable materials.
5. After use, do not touch the bit or collet until the tool has had enough time to cool off.
6. If the bit or accessory bogs down or becomes jammed, make sure to turn off the switch and unplug from the power source before clearing the bit or accessory.
7. Always feed the accessory or bit in the proper direction. Feed in the direction that the cutting edge is exiting the workpiece (that is the same direction chips are thrown).
8. Always bring the tool up to speed before contacting the material.
9. Make sure there are no foreign objects, such as nails, in your workpiece.
10. Don't use dull or damaged bits. Dull or damaged bits may break off and cause serious injury. Replacement accessories are available at Harbor Freight Tools.
11. After changing bits or accessories, make sure the collet is securely fastened.

## **Unpacking**

When unpacking, check to make sure the parts listed on page 6 are included. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible

## Operation

**Note:** Always disconnect the tool from the power adapter while loading, unloading, or adjusting accessories.

1. Choose the appropriate **Collet (3)** for the shank of the accessory you are using.
2. Just above the collet shaft on the end of the tool, there is a shaft lock button. Depress that button to lock the shaft so that you can open the **Collet (3)**.
3. Remove the **Collet Nut (13)** on the tip of the tool and add the appropriate **Collet (3)**. Put the bit or accessory you want in the **Collet (3)**. Continue to depress the shaft lock button while tightening the **Collet Nut (13)**.
4. Make certain that the power switch is in the off (**O**) position. Plug the **Adapter (2)** into a properly grounded, 120 VAC outlet. Connect the plug from the **Rotary Tool (1)** to the connector on the end of the adapter's cord.
5. Hold the tool firmly in one hand. Turn the toggle switch on (**I**) and wait until the tool reaches full speed before contacting the workpiece.
6. When finished, turn off (**O**) the toggle switch and unplug the unit.

### Operational Tips.

1. When you turn on the tool, hold it a safe distance in a direction away from your face.
2. Practice on scrap material while getting use to the feel of the tool.
3. Never lean on the tool. Allow the speed of the tool to do the work for you. Lightly contact the material. It is better to make several passes on a workpiece than to try to remove a lot of material in one pass. A gentle touch works best. If you feel the job is not getting done, change to a more powerful cutter.
4. Plastics and similar materials will melt when contacted with high speed accessories. Start very slowly and monitor the material carefully.

### Accessory Tips. (Some of the many uses.)

1. **Mandrels** are the shanks with a threaded or screw head. They are required when you use the cutoff wheels, polishing wheels, and sanding discs. The mandrel without the nut on the end is for the felt polishing wheels. For cutoff wheels and sanding discs, remove the nut on the end of the mandrel, add the wheel or disc, and replace the nut.
2. **Cutters** are used for cutting, carving and slotting materials.
3. **Grinding Stones** are used for sharpening cutting tools, screwdrivers etc. They can also be used to deburr any metal after the cutting process. Also, they can be used to remove excess glaze on ceramics.
4. **Cutting Wheels** are used for slicing or cutting off bolt heads, nuts, etc.
5. **Wire Brushes** clean silverware, jewelry, and antiques.
6. **Sanding** accessories can be used on a variety of workpieces, ranging from models to fine furniture.
7. **Polishing** accessories bring metal surfaces to a smooth finish.

## Parts List

Part	Description	Pieces	Qty.
1	Rotary Tool		1
2	Power Pack Adapter		1
3	Brass Collet Set	4	1
4	Diamond Burr Set (1/8" Shank)	20	1
5	Mounted Stone Set (3/32" Shank)	10	1
6	Sanding Drum Set (1/8" Shank)	8	1
7	Cut Off Wheel Set (1/8" Shank)	6	1
8	Buffing Wheel Set (1/8" Shank)	5	1
9	Wire Wheel Set (3/32" & 1/8" Shanks)	3	1
10	Grinding Stone		1
11	Drill Bit Set (1, 2.25, & 3 mm; 1/8" dia.)	4	1
12	Carbide Burr (3/32" Shank)		1
13	Collet Nut		1
14	Case		1

## Maintenance

**Note:** Always disconnect the power adapter from the electrical outlet before attempting any maintenance.

1. While wearing safety goggles and a full face shield, use compressed air to clean out the tool's vents.
2. Clean the collet shaft of any dirt or debris.
3. Wipe the tool down with a soft cloth. Do not use any solvents to clean the tool as they will permanently damage the tool.
4. If the Rotary Tool begins to work less efficiently, or slow down, have the internal brushes replaced by an qualified technician.

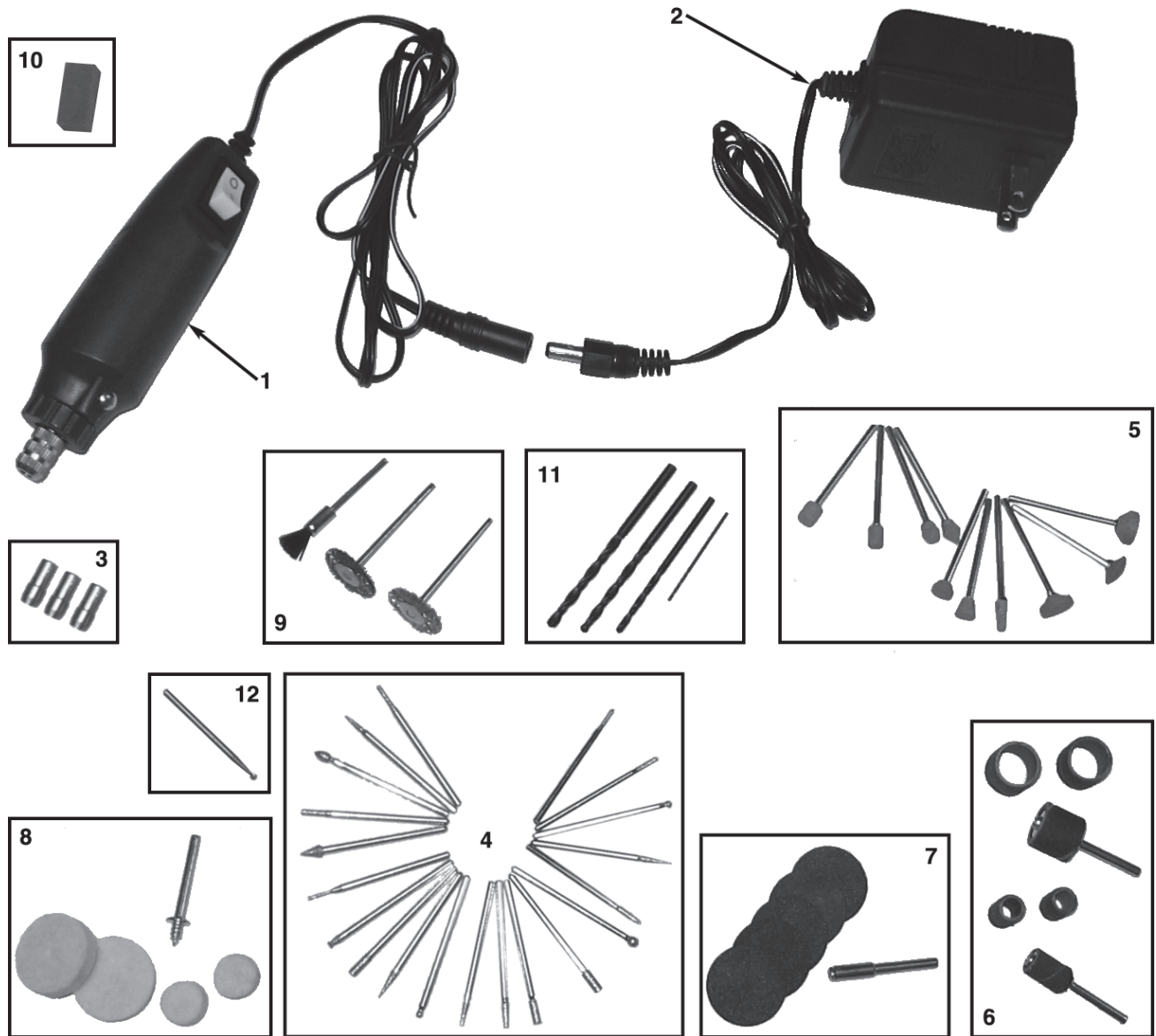
### PLEASE READ THE FOLLOWING CAREFULLY

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**NOTE:** Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

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# Assembly Drawing



**NOTE: Case (14) - not shown.**

**Note:** To use the cutoff wheels and polishing wheels, see Accessory Tips on page 5.